

CARBON-FREE Glossary



Carbon-Free

Electricity generation either does not use fossil fuels or does not emit carbon. For example, a state is carbon-free if all of its electricity is from clean energy sources like wind, solar, and nuclear.

Carbon Negative

Intentional removal of carbon dioxide from the atmosphere. For example, a company is carbon negative when it removes more carbon than it produces.

Carbon Zero vs. Carbon Neutral

Carbon zero means emissions are not being produced. Carbon neutral means some emissions are generated but offset somewhere else to make overall emissions zero.

Climate Neutrality

The strain on the climate is eliminated by shrinking or compensating for global greenhouse gas emissions including carbon dioxide. For example, a state is considered climate neutral when carbon dioxide emissions are balanced by the removal of carbon dioxide, typically over a year.

Decarbonization

The reduction of carbon is the process to reduce carbon emissions by using power sources that have little or no output of greenhouse gases. For example, the nation has a goal to decarbonize its electricity sector by 2035.

Demand – and supply – side measures

In the energy sector, *demand-side measures* aim to reduce the demand for electricity and other forms of energy needed to deliver energy services to a user. The *supply-side mitigation measures* aim at reducing the amount of greenhouse gas emissions emitted per unit of energy produced.

Energy Efficiency

Energy waste is eliminated by using less energy to perform the same task. This helps reduce the demand for energy and can lower costs.

Energy Security

This is achieved by maintaining an adequate, stable, and predictable energy supply. The International Energy Agency defines energy security as "the uninterrupted availability of energy sources at an affordable price."

Net-Zero

A balance between all emissions produced and the emissions removed from the atmosphere. For example, a net-zero home generates as much energy as it uses.

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Net-Zero Emissions

Carbon emissions are reduced to zero in order to stabilize global temperatures. This requires a reduction or removal of anthropogenic (produced by human activities) greenhouse gases, specifically carbon dioxide from the atmosphere.

Net-Zero Energy

The ability to produce as much or more emission-free energy than a city, building, or a home consumes. For example, a building is considered net zero if it produces as much energy as it uses from a clean energy source either on or offsite. This example can be scaled up for an entire city.

100% Renewables

All energy is from renewable energy sources that are continually replenished through natural processes (e.g., nuclear, solar, and wind).